

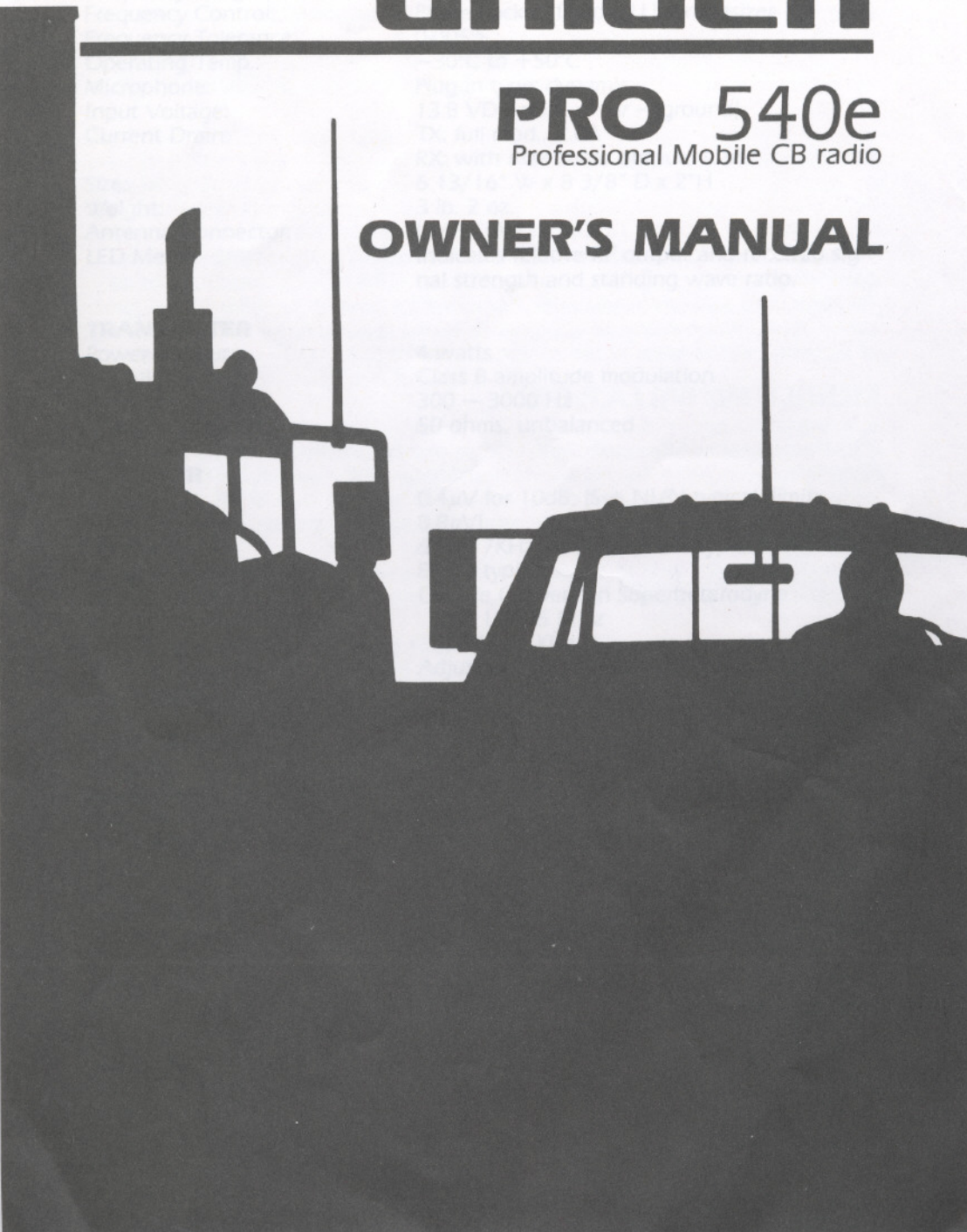
SPECIFICATIONS MEMO

# uniden®

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**PRO 540e**  
Professional Mobile CB radio

## OWNER'S MANUAL



## **WELCOME**

to the world of sophisticated, CB radio communications. Your Uniden PRO 540e represents the most advanced mobile radio ever designed for use in the Citizens Band Radio Service. It will operate on any of the 40 AM frequencies authorized by the Department of Communications. Your PRO 540e features a superheterodyne circuit with PHASE LOCKED LOOP techniques to assure precise frequency control. This radio has been type accepted and certified by the D.O.C.

## **WARNING**

Before transmitting with your transceiver, you must obtain a Department of Communications (D.O.C.) Citizens Radio Licence. Obtain an application form, from the D.O.C. Before completing the form you should read the conditions governing the licensing and operation of the C.R.S (D.O.C. brochure RB 14). This brochure also can be obtained from the D.O.C. After completing the application form, mail it with the appropriate fee to the Superintendent Regulatory of Licensing in the State or territory in which the station will be operated.

## **MOBILE INSTALLATION**

Plan the location of the radio and microphone bracket before starting installation. Select a location that is convenient for operation and does not interfere with the driver or passenger in the vehicle. The radio should be securely fastened to a solid surface using the mounting bracket and self-tapping screws which are provided.

## **MOBILE ANTENNA**

Since the maximum allowable power output of the transceiver is limited by the D.O.C., the antenna is a very important factor affecting transmission distance. It is for this reason that we strongly recommend that you install only a quality antenna in your new CB radio system. You have purchased a superior quality transceiver. Don't diminish its performance by installing an inferior antenna.

Only a properly matched antenna system will allow maximum power transfer from the 50-ohm transmission line to the radiating element. We recommend that you use the built-in SWR meter when installing your antenna. Set your PRO 540e to channel 20 and press the SWR key. The SWR scale is the first set of numbers above the LED meter, ( 1 , 2 and 3 ). Make adjustments to the antenna until the meter shows SWR reading less than 2 . Your local dealer is qualified to assist you in the selection of the proper antenna to meet your application requirements.

For automobile installation, the whip antenna may be used with good effect. The most efficient and practical installation is a full quarter wave whip antenna mounted on the rear deck or fender top, midway between the rear window and bumper.

A short "loaded" whip antenna is more convenient to install on your automobile, although the efficiency is less than a full quarter wave whip antenna.

For marine installation, consult your dealer for information regarding an adequate grounding system and prevention of electrolysis between fittings on the hull and water.

## **CONNECTING THE POWER CORDS**

With regard to the connection of the power cords, it may be possible or desirable to connect the red lead (for negative ground systems) or the black lead (for positive ground systems) to the ignition switch accessory terminal so that the radio is automatically turned off when the ignition switch (key) is turned off.

Alternately, the power lead may be connected to an available terminal on the fuse block or even to a point in the wiring harness. Care must be taken, however, to guard against a short circuit condition. When in doubt, please contact your vehicle dealer for specific information about your vehicle.

## **GROUND INFORMATION**

Most newer cars and small trucks use a negative ground system, while some older cars and some newer, larger trucks may use a positive ground system. A negative ground system is generally identified by the "-" battery terminal being connected to the vehicle motor block, but if you cannot determine the polarity of your vehicle, consult your vehicle dealer for information.

**NOTE: This radio may be installed and used in any 12-volt DC negative or positive ground system.**

## **NEGATIVE GROUND SYSTEM**

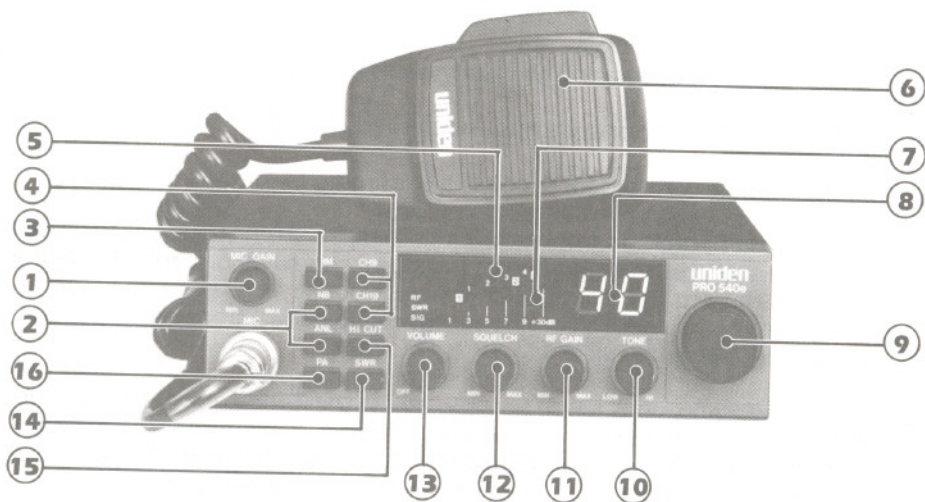
If you are operating on a negative ground system, connect the red DC power cord from the radio to the positive "+" battery terminal or other convenient point and connect the black power lead to the chassis or vehicle frame, or the negative "-" terminal of the battery.

## **POSITIVE GROUND SYSTEM**

If you are operating on a positive ground system, connect the black DC power cord from the radio to the negative "-" battery terminal or other convenient point and connect the red power lead to the chassis or vehicle frame, or the positive "+" terminal of the battery.



## CONTROLS AND FUNCTIONS



1. **MIC GAIN** – Adjusts the modulation of the mic for crisp, clear transmission.
2. **NB and ANL SWITCHES** – You can select either Noise Blanker and Automatic Noise Limiter, only Automatic Noise limiter or all filters OFF. The NB and ANL help to reduce harsh background noise caused by a variety of interference sources.
3. **DIM KEY** – The dimmer adjusts the meter and channel lights for optimum viewing.
4. **INSTANT CH 9 and 19** – Press these keys to instantly select either channel. Press again to return to normal 40 channel operation.
5. **TX and RX INDICATORS** – An LED lights to indicate when the radio is transmitting or receiving.
6. **MICROPHONE** – The operational mode of the CB is controlled by the push-to-talk switch on the mic. Press the switch to activate the transmitter and disable the receiver. Release the switch to enable the receiver and disable the transmitter. When transmitting, hold the mic about 2 inches from your mouth and speak clearly in a normal voice. The mic included with the PRO 540e is a detachable, low impedance, dynamic type.
7. **S/R/SWR METER** – This LED meter shows the relative strength of the received signal or the RF output and the Standing Wave Ratio of your antenna.
8. **CHANNEL INDICATOR** – displays the channel currently in use.

- 9. CHANNEL SELECTOR** — This switch selects the desired channel for transmission and reception. All channels, except channel 9, may be used for communications between stations operating under different license. Channel 9 has been reserved by the D.O.C. for emergency communications involving the immediate safety of individuals or the immediate protection of property. Channel 9 also may be used to render assistance to a motorist. This is a D.O.C. rule and applies to all operators of CB radios.
- 10. TONE CONTROL** — Adjust the bass (lo) or treble (hi) response of the receiver.
- 11. RF GAIN** — This control is used to adjust signal reception in areas where strong signals are present. Turn the control fully clockwise for maximum reception.
- 12. SQUELCH** — The Squelch control is used to eliminate background noise during the absence of a transmission. Turn the control fully counter clockwise, then slowly rotate it back, clockwise until all noise disappears. At this setting any transmission must be slightly stronger than the background noise to "Break Squelch" or to be heard. Further clockwise rotation will increase the threshold at which a signal will be heard. You can select any level to "Break Squelch"
- 13. VOLUME CONTROL** — Rotate clockwise to turn radio on and to increase volume.
- 14. SWR KEY** — Press to read the Standing Wave Ratio of your antenna. The SWR LED will light when the SWR key is pressed.
- 15. HI CUT KEY** — Press to reduce the high frequency response of the receiver. This key can be used to help eliminate the hiss and pop of AM reception.
- 16. PA SWITCH** — Press this switch to the Public Address mode when an external PA speaker is connected. When the PA mode is selected, the CB radio will be disabled. Adjust the PA output level by rotating the volume control.

**ANTENNA CONNECTOR** — This female connector permits connection of the transmission line cable male connector (PL-259) to the transceiver.

**PUBLIC ADDRESS** — An external 8 ohm 7-watt speaker must be connected to the "PA SP" jack located on the back of the unit. The speaker must be directed away from the mic to prevent feedback.

**EXTERNAL SPEAKER** — The external speaker jack is used for remote receiver monitoring. The external speaker should have an 8 ohm impedance and be rated at 7 watts. When an external speaker is connected, the internal speaker is disabled.

## OPERATING PROCEDURE TO RECEIVE

1. Be sure that the power source, antenna and microphone are properly connected.
2. Turn the unit on by rotating the Volume control clockwise.
3. Set the channel selector switch to the desired channel.
4. Set the Volume control to a comfortable listening level.
5. Listen to the background noise from the speaker. Turn the Squelch control clockwise until the noise disappears (no signal should be present). Leave the control at this setting. The squelch is now properly set. The receiver will remain quiet until a signal is actually received. Do not advance the control too far, or some weaker signals will not be heard.
6. When a transmission is heard you can adjust the Tone control for optimum reception. Turn the control clockwise for better treble response. Turn the control counterclockwise for better bass response. If the transmission has annoying high frequency distortion try activating the Hi Cut feature.

## OPERATING PROCEDURE TO TRANSMIT

1. Be sure the operator has read and understands D.O.C. rules and regulations prior to operating the transmitter.
2. Select the desired channel for transmission.
3. If the channel is clear, depress the push-to-talk switch on the side of the microphone and speak in a normal voice.

**CAUTION:** The transceiver Voltage Standing Wave Ratio (V.S.W.R.) measurement must be performed prior to the use of the transmitter. A "V.S.W.R." ratio in excess of  $\boxed{2}$  may damage the transmitter. Please check your SWR reading frequently by following the steps in the Mobile Antenna section.

## PREVENTIVE MAINTENANCE

At six to twelve month intervals, the following system checks should be made:

1. Check the Standing Wave Ratio (V.S.W.R.).
2. Inspect all electrical connections.
3. Inspect antenna coaxial cable for wear.
4. Inspect all screws and other mounting hardware.



## TROUBLE SHOOTING

If your PRO 540e is not performing up to your expectations, please try these simple steps. If you still cannot get satisfactory results after reading this manual and following the trouble shooting steps, please call your local dealer:

| Trouble                             | Check   |
|-------------------------------------|---|
| Unit will not turn on.<br>No power. | <ol style="list-style-type: none"><li>1. Check power cord and all connections.</li><li>2. Check power cord fuse.</li><li>3. Check vehicle electrical system.</li></ol>            |
| Poor reception                      | <ol style="list-style-type: none"><li>1. Check and adjust Squelch.</li><li>2. Check antenna system and cable, connectors.</li><li>3. Check operation mode of the radio.</li></ol> |
| Weak transmission                   | <ol style="list-style-type: none"><li>1. Check antenna system and cable, connectors.</li><li>2. Check antenna grounding.</li><li>3. Check for corrosion on connectors.</li></ol>  |

If you determine that service is necessary contact your local dealer or pack the unit in its original carton. Send it along with a brief, concise description of the problem, your name, address, phone number, and a copy of the original purchase receipt to the address listed in the warranty.

## SERVICING YOUR CB

Technical information, diagrams and charts will be provided upon request. It is the user's responsibility to see that this radio is operating at all times in accordance with the D.O.C. Citizens Radio Service regulations. We highly recommend that you consult a qualified radiotelephone technician for service and alignment of this radio. When ordering parts, it is important to specify the correct model number and serial number of this radio.

Please refer to the WARNING information on the first page of this manual.

## SPECIFICATIONS

|                      |  |
|----------------------|--|
| Channels:            | 40 AM  |
| Frequency Range:     | 26.965 to 27.405 MHz   |
| Frequency Control:   | Phase Locked Loop (PLL) synthesizer  |
| Frequency Tolerance: | 0.005%   |
| Operating Temp.:     | -30°C to +50°C   |
| Microphone:          | Plug in type: dynamic  |
| Input Voltage:       | 13.8 VDC nom. (+ or - ground)  |
| Current Drain:       | TX: full mod., 2.0A<br>RX: with max audio output, 1.2A                             |
| Size:                | 6 13/16" W x 8 3/8" D x 2"H  |
| Weight:              | 3 lb. 2 oz.  |
| Antenna Connector:   | UHF, SO-239  |
| LED Meter:           | Indicates relative RF output and received signal strength and standing wave ratio. |

### TRANSMITTER

|                   |                              |
|-------------------|------------------------------|
| Power Output:     | 4 watts                      |
| Modulation:       | Class B amplitude modulation |
| Freq. Response:   | 300 - 3000 Hz                |
| Output Impedance: | 50 ohms, unbalanced          |

### RECEIVER

|                     |  |
|---------------------|--|
| Sensitivity:        | 0.4 $\mu$ V for 10dB; (S + N)/N typical (limit: 0.8 $\mu$ V)   |
| Selectivity:        | 6dB @ 7KHz, 70dB @ 10KHz typical   |
| Image Rejection:    | 80 dB typical  |
| I.F. Frequency:     | Double Conversion Superheterodyne<br>1st 10.695 MHz<br>2nd 455 KHz   |
| RF Gain Control:    | Adjustable for optimum reception   |
| Automatic Gain:     | (AGC): less than 10dB change in audio output for inputs from 10 to 50,000 microvolts RF type   |
| Noise Blanker:      |  |
| Squelch:            | Adjustable; threshold less than 1 $\mu$ V  |
| Audio Output Power: | 7 watts max. into 8 ohms   |
| Freq. Response:     | 300 to 3000 Hz   |
| Tone Boost:         | Lower: adjustable 10 dB @ 300 Hz<br>Upper: adjustable 10 dB @ 3000 Hz<br>less than 7% at 4 watts, 1000 Hz<br>less than 7% at 4 watts, 1000Hz |
| Distortion:         |  |
| Internal Speaker:   | 8 ohms, 7 watts round  |
| External Speaker:   | (not supplied) 8 ohms  |
| PA System:          | 7 watts in external 8 ohm speaker  |



**MEMO**

## WARRANTY

**WARRANTOR.** SANTRONIC AGENCIES PTY. LTD. 13 Garema Circuit, Kingsgrove NSW 2208 ("SANTRONIC").

**ELEMENTS OF WARRANTY.** SANTRONIC warrants, for the duration of this warranty, its UNIDEN CB Product to be free from defects in materials and craftsmanship with only the limitation or exclusions set out below.

**WARRANTY DURATION.** This Warranty shall terminate and be of no further effect Two (2) years after the date of original purchase of the Product or at the time the Product is (a) damaged or not maintained as reasonable and necessary, (b) modified, (c) improperly installed, (d) is repaired by someone other Warrantor for a defect or malfunction covered by this Warranty, or (e) used in a manner or purpose for which the Product was not intended.

**PARTS COVERED.** This Warranty covers all components of the Products.

**STATEMENT OF REMEDY.** In the event that the Product does not conform to this Warranty at any time while this Warranty is effective, Warrantor will repair the defect and return it to you prepaid, without charge for parts, service, or any other costs incurred by Warrantor or its representatives in connection with the performance of this Warranty. In addition, if the Product contains a defect or malfunction which is not repaired after a reasonable number of attempts by Warrantor to repair the Product, the Product or defective component will at our discretion, be replaced without charge, when the defective product is delivered to the warrantor at 13 Garema Circuit Kingsgrove NSW 2208 free and clear of all liens and encumbrances. Please note that while the Product will be remedied under this Warranty without charge, THIS WARRANTY DOES NOT COVER OR PROVIDE FOR THE REIMBURSEMENT OR PAYMENT OF INCIDENTAL OR CONSEQUENTIAL DAMAGES.

**PROCEDURE FOR OBTAINING PERFORMANCE OF WARRANTY.** In the event that the Product does not conform to this Warranty, the Product should be shipped prepaid to Warrantor at 13 Garema Circuits Kingsgrove NSW 2208. THE ORIGINAL OR COPY OF THE SALES RECEIPT OR OTHER VALID EVIDENCE OF THE DATE OF THE ORIGINAL PURCHASE MUST ACCOMPANY THIS PRODUCT.

## SANTRONIC

AGENCIES PTY. LTD.

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